MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2016/2017

MAX2013 – 3D ANIMATION

(All sections / Groups)

27 FEBRUARY 2017
9.00 a.m. - 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 3 pages with 5 questions only.

2. Answer **FOUR** out of FIVE questions. All questions carry equal marks and the distribution of the marks for each question is given.

3. Please write all your answers in the Answer Booklet provided.

QUESTION 1

A geometry created in 3D typically would have only a single pivot point. This limitation, however, can be solved by using a certain common tool within Autodesk Maya. Using this said tool, **EXPLAIN** in detail, how one would rig a single cube to have multiple pivot points which would allow it to be rotated on the lowest edges of its front, back, left and right sides?
(10 marks)

QUESTION 2

Richie wants to try matchmoving a footage he has shot himself for the first time. While scouting for locations, he stumbles upon an empty football field. Thinking that it might be perfect location setting for him to integrate a CG robot character, he pulls out his smartphone and records a 10 seconds footage while running full speed into his shot. When Richie tries to track and matchmove his footage later in Nuke, he finds that the footage which he recorded quite challenging as the trackers would not stick in place.

Why is Richie's footage difficult to track for someone who is only starting to learn matchmoving? Advise Richie on how he should've approached his first matchmoving project better.
(10 marks)

QUESTION 3

A walkcycle is a basic animation exercise that animators must learn and understand. A walkcycle can be broken down into 4 main keyposes: contact, down, passing and up before returning back to contact. DESCRIBE the actions that happen in these 4 poses.
(10 marks)

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QUESTION 4

Blendshapes allow for a 3D geometry to morph into different targets. Although it is most commonly used in facial animation setup, blendshapes can also be used in non-organic, non-character animation.

i) Explain how one would use blendshapes to rig a door of a car denting in slow motion during a car crash scene. **(8 marks)**

ii) Finn wants to animate the exact same car crash scene. After the blendshape process is completed, Finn decides to add extra polygon details into his door by extruding some faces. He then discovers that his blendshapes do not work anymore. Why? **(2 marks)**

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QUESTION 5

Image 1 shows a basic setup of an IK foot roll for a bipedal character. The joints and IKs have already been placed in their respective positions.

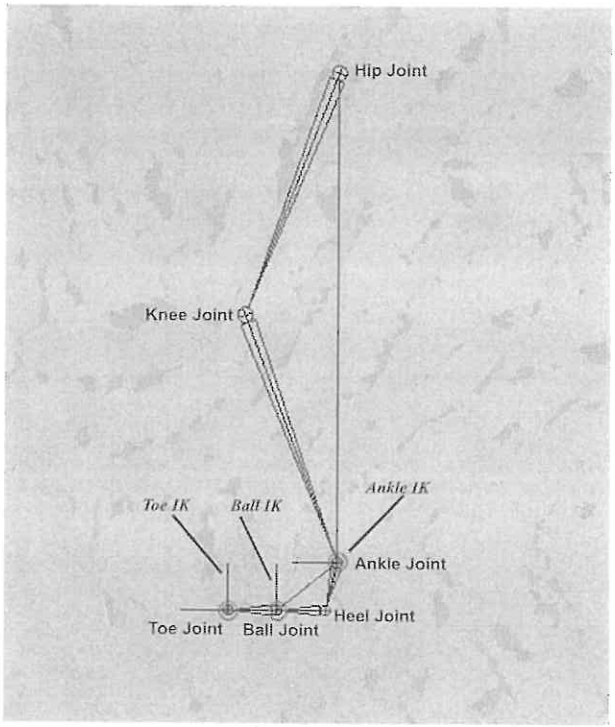

Image 1

i) In this setup, the Ankle IK and the Toe IK are grouped to themselves. Why is this done? **(2 marks)**

ii) During the process of grouping the Ankle IK to itself, where would the group pivot point be located in the joint chain? **(2 marks)**

iii) During the process of grouping the Toe IK to itself, where would the group pivot point be located in the joint chain? **(2 marks)**

iv) In order to setup the final pivot which is located at the heel joint, which IK is to be grouped together with the new Ankle Group pivot and the Toe Group pivot? **(2 marks)**

v) How does one create a foot roll attribute onto this joint chain? **(2 marks)**

End of Page.